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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,802	09/18/2003	Darrin W. Kabel	702.256	6140

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EXAMINER
WEISKOPF, MARIE

ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>02 August 2006</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-4,6-10,12-21,23-33 and 35-46</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-4,6-10,12-15,20,21,23-33 and 35-46</u> is/are rejected.

7) ☒ Claim(s) <u>16-19</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>8/2/06</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1.   Claims 1-2, 4, 6-9, 12-15, 20, 29-32, 35-36, and 44-46 are rejected under 35

U.S.C. 103(a) as being unpatentable over Fruchterman et al. (US005470233A) in view

of Tognazzini (US005872526A).

        a.   Per claim 1, Fruchterman teaches a method including calculating a course

between two or more waypoints (column 4, lines 47-54), analyzing cartographic data for

the course for user identified criteria to avoid (column 17, lines 24-34), and providing an

alert signal when the course contains user identified criteria (column 17, lines 34-37 and

lines 47-49). Fruchterman teaches using GPS to determine present location coordinates

(column 7, lines 9-11) and a predetermined area around the area of exclusion (column

17, lines 24-49). Fruchterman does not teach a predetermined area around a user with

a predetermined shaped based on heading. Tognazzini teaches a GPS collision

avoidance system that uses GPS data to determine heading and calculates a

predetermined area based on heading (column 7-8). It would have been obvious to one

of ordinary skill in the art, at the time of invention, to use heading information derived

from the GPS data received in the Fruchterman invention, to calculate an area around

the user, as taught by Tognazzini, in order to create a warning zone around the user.

      b.   Per claim 2, Fruchterman teaches calculating the course to avoid the area

(column 17, lines 47-48).

      c.   Per claim 4, Fruchterman teaches recalculating the course to avoid the

area (column 17, lines 47-48).

      d.   Per claim 6, Fruchterman teaches warning the user when approaching the

area of exclusion (column 17, lines 34-37).

      e.   Per claim 7, Fruchterman teaches that the area of exclusion can be any

area relevant to a blind pedestrian and gives an example of a body of water (column 5,

lines 1-10).

      f.   Per claim 8, Fruchterman teaches a method of calculating a course

between two or more waypoints (column 4, lines 47-54), analyzing cartographic data for

the course for user identified criteria to avoid (column 17, lines 24-34), and calculating

the course to avoid the user identified criteria (column 17, lines 34-37 and lines 47-49).

Fruchterman teaches using GPS to determine present location coordinates (column 7,

lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-

49). Fruchterman does not teach a predetermined area around a user with a

predetermined shaped based on heading. Tognazzini teaches a GPS collision

avoidance system that uses GPS data to determine heading and calculates a predetermined area based on heading (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use heading information derived from the GPS data received in the Fruchterman invention, to calculate an area around the user, as taught by Tognazzini, in order to create a warning zone around the user.

     g.   Per claim 9, Fruchterman teaches recalculating the course to avoid the area (column 17, lines 47-48).

     h.   Per claim 12, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

     i.   Per claim 13, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

     j.   Per claim 14, Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34) around a predetermined area (column 19, lines 60-65). Fruchterman does not teach a predetermined area around a user with a predetermined shaped based on heading. Tognazzini teaches a GPS collision avoidance system that uses GPS data to determine heading and calculates a predetermined area based on heading (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use heading information derived from the GPS data received in the Fruchterman invention, to calculate an area around the user, as taught by Tognazzini, in order to create a warning zone around the user.

k.   Per claim 15, Fruchterman teaches providing an alert signal when the area contains user identified criteria (column 17, lines 34-37 and lines 47-49).

l.   Per claim 20, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

m.   Per claim 29, Fruchterman teaches a computer readable medium having a set of computer readable instructions (column 17, lines 53-57) for causing a device to perform a method including calculating a course between two or more waypoints (column 4, lines 47-54), analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34), and providing an alert signal when the course contains user identified criteria (column 17, lines 34-37 and lines 47-49). Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-49). Fruchterman does not teach a predetermined area around a user with a predetermined shaped based on speed. Tognazzini teaches a GPS collision avoidance system that uses GPS data to determine velocity and calculates a predetermined area based on a velocity vector (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use velocity information derived from the GPS data received in the Fruchterman invention, to calculate an area around the user, as taught by Tognazzini, in order to create a warning zone around the user. It would be obvious to create the warning area around the user to be a bigger size depending on the speed of the user because the faster the user is going the bigger the area necessary to avoid.

If the user is going at a slower speed, it would be easier to make maneuvers to avoid the exclusion area compared to if the user was going at higher speeds.

n.   Per claims 30 and 31, Fruchterman teaches calculating the course to avoid the area (column 17, lines 47-48).

o.   Per claim 32, Fruchterman teaches recalculating the course to avoid the area (column 17, lines 47-48).

p.   Per claim 35, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

q.   Per claim 36, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

r.   Per claim 44, Fruchterman teaches a navigation device including a processor, a GPS receiver, and a memory to determine present location coordinates (column 7, lines 9-11) and to analyze cartographic data for user identified criteria to avoid (column 17, lines 24-34). Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-49). Fruchterman does not teach a predetermined area around a user with a predetermined shaped based on speed and heading. Tognazzini teaches a GPS collision avoidance system that uses GPS data to determine velocity and heading to calculate a predetermined area based on a heading and a velocity vector (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use velocity and heading information derived from the

GPS data received in the Fruchterman invention, to calculate an area around the user,

as taught by Tognazzini, in order to create a warning zone around the user. It would be

obvious to create the warning area around the user to be a bigger size depending on

the speed of the user because the faster the user is going the bigger the area

necessary to avoid. If the user is going at a slower speed, it would be easier to make

maneuvers to avoid the exclusion area compared to if the user was going at higher

speeds.

s.   Per claim 45, Fruchterman teaches warning the user when approaching

the area of exclusion (column 17, lines 34-37).

t.   Per claim 46, Fruchterman teaches recording a track log (column 20, lines

15-31).

2.   Claims 3, 10 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Fruchterman and Tognazzini in view of Colley (US 5,592,382).

a.   Per claims 3, 10 and 33, Fruchterman and Tognazzini fail to disclose

calculating the course including identifying one or more non-user selected waypoints on

the course. Colley, however, discusses the use of having intermediate waypoints along

a segment to be able to establish that a vehicle is going the correct way and staying on

course, which is well known in the art. These intermediary segments are not user

defined but are created in search of an optimal course to a destination waypoint.

(Column 2, lines 14-20). It would have been obvious to one having ordinary skill in the

art at the time of the invention to create intermediate waypoints which are not based

upon user selected waypoints in order to keep track of segments the user must travel

and determine that the user is indeed staying on the correct path as taught by Colley.

3.   Claims 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Frutcherman and Tognazzini in view of Anderson (US 5,684,476).

        a.   Per claim 21, Fruchterman teaches a method including calculating a

course between two or more waypoints (column 4, lines 47-54), using GPS to determine

present location coordinates (column 7, lines 9-11) which includes a heading, analyzing

cartographic data for the course for user identified criteria to avoid (column 17, lines 24-

34) including heading information (see for example column 9, line 17), and providing an

alert signal when the course contains user identified criteria (column 17, lines 34-37 and

lines 47-49), wherein GPS heading data is a functional equivalent of an electronic

compass signal, in that it provides a heading signal from prior logged positions. More

accurate heading signals can be determined from other on-board sensors that are

commonly included with GPS navigation equipment, such as compasses (see for

example Maruyam (US005398188A)). Anderson specifically discusses the use of an

electric compass with a GPS system in order to more accurately determine the heading

of the vehicle when it is not moving. It would have been obvious to one having ordinary

skill in the art at the time of the invention to use the compass and GPS system as taught

by Anderson in order to provide a very accurate heading signal.

        b.   Per claim 23, Fruchterman teaches recording a track log (column 20, lines

15-31).

    c.   Per claim 24, Fruchterman teaches calculating the course to avoid the area (column 17, lines 47-48).

    d.   Per claim 25, Fruchterman teaches verbal or Braille display to output the route to the user (column 3, lines 20-25).

    e.   Per claim 26, Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-49).

    f.   Per claim 27, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

    g.   Per claim 28, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

4.   Claims 27-40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frutcherman and Tognazzini in view of Heron (US 6,055,478).

    a.   Per claim 37, Fruchterman teaches a navigation device including a processor for calculating a course between two or more waypoints (column 4, lines 47-54), analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34), and calculating the course to avoid the user identified criteria (column 17, lines 34-37 and lines 47-49). Fruchterman further teaches voice instructions (column 6, line 62 – column 7, line 4). However, the invention taught by Fruchterman discloses a speech synthesizer, rather than the wireless transmission of voice data as claimed. Transmitting voice data instructions in a navigation system

would have been well known to one of ordinary skill in the art at the time of the

invention. Furthermore, because voice instructions are the "most fundamental" part of

the Fruchterman system (see column 7, lines 1-2), it would have been obvious to one of

ordinary skill in the art to modify the system of Fruchterman to ensure that voice data

could be received from other sources than just the voice synthesizer. Heron discloses

the use of transmitting and receiving voice data signals with a navigation system which

is well known in the art (Column 4, lines 18-30; Abstract). It would have been obvious

to one having ordinary skill in the art at the time of the invention since, as discussed

above, the Frutcherman invention discloses a speech synthesizer and transmitting voice

data instructions as taught by Heron is well known in the art, to include receiving and

transmitting voice data instructions.

        b.   Per claim 38, Fruchterman teaches calculating the course to avoid the

area (column 17, lines 47-48).

        c.   Per claim 39, Fruchterman teaches warning the user when approaching

the area of exclusion (column 17, lines 34-37).

        d.   Per claim 40, Fruchterman teaches calculating the course to avoid the

area (column 17, lines 47-48).

        e.   Per claim 43, the FRS frequency is approved by the FCC to provide

"traveler assistance" (see 47 CFR § 95.193(a)). Therefore, it would have been obvious

to one of ordinary skill in the art at the time of the invention to use a legally approved

frequency to transmit the information.

5.   Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Frutcherman and Tognazzini in view of Heron as applied to claim 37 above, and further

in view of Colley (US 5,592,382).

    a.   Per claim 41, Fruchterman, Tognazzini and Heron fail to disclose

calculating the course including identifying one or more non-user selected waypoints on

the course. Colley, however, discusses the use of having intermediate waypoints along

a segment to be able to establish that a vehicle is going the correct way and staying on

course, which is well known in the art. These intermediary segments are not user

defined but are created in search of an optimal course to a destination waypoint.

(Column 2, lines 14-20). It would have been obvious to one having ordinary skill in the

art at the time of the invention to create intermediate waypoints which are not based

upon user selected waypoints in order to keep track of segments the user must travel

and determine that the user is indeed staying on the correct path as taught by Colley.

Allowable Subject Matter

6.   Claims 16-19 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims. The following is a statement of reasons for

the indication of allowable subject matter: the prior art, individually or in combination,

fails to disclose, teach or suggest determining the shape of the predetermined area

based upon the radii extending along the heading from the present location, the radii

including an angle formed from line segments emanating from the present location and

wherein the angle includes user selectable values of greater than 0 degrees to 360

degrees.

Response to Arguments

7.   Applicant's arguments with respect to claims 1, 8, 14, 29 and 44 filed 8/2/06 have

been fully considered but they are not persuasive.

        a.   Specifically, with respect to claims 1, 8, 14, 29 and 44, Examiner

respectfully disagrees with the Applicant's statement that neither Fruchterman nor

Tognazzini discloses a size or shape of the predetermined area based on a speed or

heading. As stated in the above rejection Fruchterman discloses using GPS to

determine present location coordinates and a predetermined area around the present

location for user identified criteria to avoid, however, as stated above, Fruchterman

does not specifically disclose wherein the predetermined area has a shape based on a

heading. Examiner agrees that Fruchterman only determines the shape of the

predetermined area based upon boundries that are set by the user, such as

construction sites, lakes, etc. Examiner does not agree with the applicant that

Tognazzini teaches a threat boundry completely independent of heading. Tognazzini

discloses that a predetermined area is calculated based upon heading. As discussed

by applicant, Tognazzini discloses that threat sphere is constructed based upon the

location information, however, Tognazzini further discusses that a velocity vector is

generated in order to determine the velocity of the aircraft, therefore, the threat sphere

must move and change according to the direction of the aircraft and it is inherent then

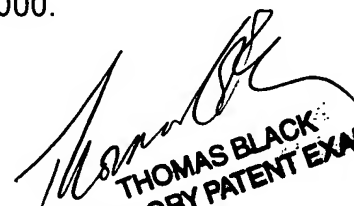that the area is based upon heading and speed of the aircraft. (Column 8, lines 3-33)

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Marie A. Weiskopf whose telephone number is (571)

272-6288. The examiner can normally be reached on Monday-Thursday between 7:00

AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

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MW

THOMAS BLACK
SUPERVISORY PATENT EXAMINER